

Holly, much damaged by high winds, measured, at 4 feet from the ground, 69 inches in circumference. *Centrosema Virginiana* is very abundant and conspicuous with its long and slender pods. *Eupatorium hyssopifolium* and *fœniculaceum*, *Desmodium strictum*, *Helianthemum corymbosum*, *Callicarpa Americana*, with its showy axillary clusters of purple fruit, *Lespedeza Stuevei*, *Galium hispidulum*, *Elephantopus nudatus*, *Eragrostis tenuis*, *Cyperus Grayii*, and *ovularis*, with *Paspalum ovatum*, Sim.!!! a South American species, are among the plants collected through the woods.

Previous explorations have detected *Allium striatum*, *Pyrus angustifolia*, *Juncus Rœmerianus*, *Jatropha stimulosa*, *Danthonia sericea*, *Muscari botryrides*, and *Senebiera didyma*.

In the vicinity of Hampton are found *Lolium temulentum*, *Cirsium horridulum*, *Senecio tomentosus*, *Gratiola sphærocarpa*, *Ranunculus parviflorus*, *pusillus* and *hederaceus*! *Fedia olitoria*, *Amaryllis Atamasco*, *Hydrocotyle umbellata*, *Sagina subulata*, *Briza media*, *Oxydendron arborescens* and *Rumex pulcher*.

Of most of these, the writer has specimens for exchange.—J. W. CHICKERING, JR., *Deaf-Mute College, Washington, D. C.*

P. S. On a trip to Luray Cave in June, *Bupleurum rotundifolium* was found in abundance where Dr. Gray detected it 38 years before.

THE GEOGRAPHICAL RANGE OF *PETALOSTEMON FOLIOSUS*, GRAY, IN ILLINOIS.—The note of Mr. Boltwood, in the GAZETTE for October, announcing the discovery of this rather rare plant at Ottawa, raises some questions as to localities where it may yet be looked for. As I found it in 1872 on an island in the Kankakee river, at Altorf, Ill., about eight miles below Kankakee, and as it had been found before by Mr. Burgess Truesdell on the Fox river, in Kane Co., this third locality at Ottawa makes a good connecting link to indicate its probable range. A glance at the map will give us some clue to this. The Fox is a branch of the Illinois, joining it at Ottawa. The Kankakee enters the Illinois a few miles above Morris. The valleys of the two streams, together with the upper Illinois, and perhaps lower down, may yet show other stations for the plant. Though I was often during several years along the banks of the Kankakee from Rock creek, below Altorf, to Momence, near the Indiana line, I saw no further indications of the plant, though from some remains, found late one season, it might be looked for lower down the stream. Two years after finding it, I searched long and carefully in the first locality for more, but in vain, though the ground was such that they could scarcely have been concealed. On getting some roots for Dr. Gray, to

plant in the Botanical Gardens at Cambridge, and for my own collection, I was unintentionally too good a collector, and probably extinguished the plant, though thinking enough had been left for seed. Dr. Gray, on requesting the plants, said they were difficult to raise from the seed, which may account for those left disappearing the year after the first and second crop of specimens was reaped, there being but few at the best. It grew on the gravelly banks of the river, and it would be well for collectors to look for it in similar situations within the range above indicated, at least, with the precaution, if found, of not cropping too closely, unless there is an "abundance" at Ottawa for all who may seek it personally or by exchange.—

E. J. HILL, *Englewood, Ill.*

ALTERNATION OF GENERATIONS.—A discussion of the subject of the "alternation of generations" in the *Journal of Botany* for November, may be given in brief as follows:

So far back as 1849, Hofmeister pointed out that the prothallium of the Vascular Cryptogams is morphologically equivalent to the *moss-plant*; that a Fern or a Lycopod is the homologue of the *moss-fruit*; and further that in both Mosses and Ferns the asexual is interrupted by a sexual reproduction, this interruption occurring at an earlier stage in Ferns than in Mosses, and that the sexual and asexual generation regularly alternate.

So soon as these views were generally accepted, attempts were made to apply them to the life-histories of the Phanerogams on the one hand and of the Thallophytes on the other. Such an application is rendered difficult in the case of the former group, by the very intimate connexion of the two generations in the ovule, which makes their exact distinction a matter of some uncertainty; and in the case of the latter group by the more or less complete independence of the two generations and by the frequent repetition of the one before the recurrence of the other.

The generations of Thallophytes, like those of Cormophytes, begin in all cases with a free cell, the spore, but unlike those of Cormophytes, the generations are distinct and do not remain in organic connexion; consequently it is impossible to regard the "fruits" of Thallophytes as representing an entire generation.

The fact that such groups as the *Conjugatæ* and *Fucacæ* exist, which exhibit no alternation of generations is presumptive evidence against it. It seems to be more in accordance with the fact to say simply that a sexual Thallophyte may reproduce itself either sexual-